ONKYO®

SOLID STATE
STEREO AMPLIFIER
SERVICE DATA

MODEL-732

SPECIFICATIONS

Type·····All Silicon Transistor Integrated Stereo Pre-Main Amplifier.

Circuit···Direct-Coupling and Differential Amplifier, Pure-Complementary SEPP System, Transistor 54, Diode 20, Thermistor 2 and Positor 4.

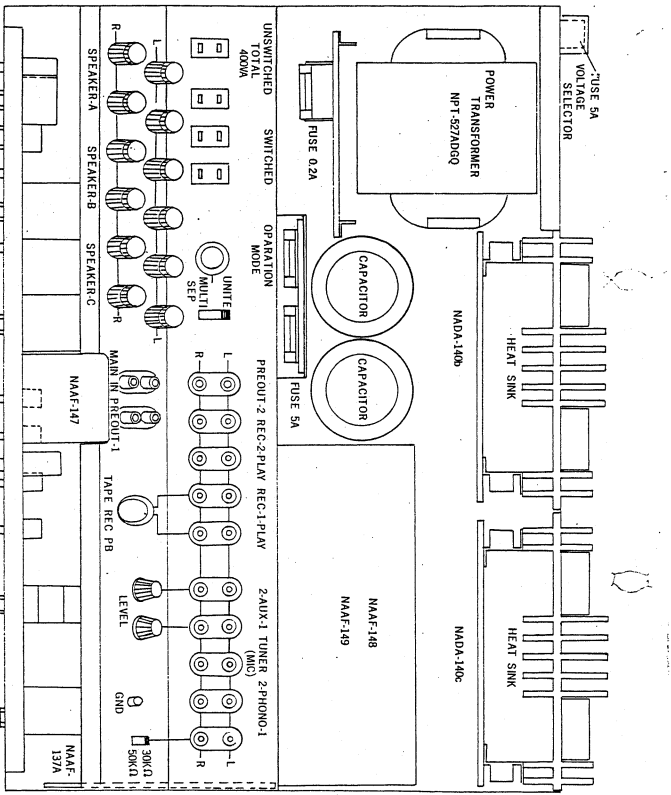
Main Amplifier(8 Ω load in case of no indication)

Dynamic Power:	IHF 8Ω 150W
	IHF 4Ω 200W
RMS Continuous Power:	8Ω 1KHz 56W+56W
(Single Channel Driven)	4Ω 1KHz 68W+68W
Total Harmonic Distortion:	at rated output 1KHz less than 0.1%
	at 0.5W output 1KHz less than 0.03%
	at 10 W output 1KHz less than 0.03%
Inter Modulation Distortion:	at 34W output SMPTE 70Hz:7KHz=4:1 less than 0.05%
Frequency Characteristic:	+0 −1 dB at normal output 10Hz~70KHz
Power Band Width:	IHF−3dB, THD 0.2% 10Hz~100KHz
S/N:	IHF A Network Input Shunt better than 110dB
Damping Factor:	DC~20KHz 100
Load Impedance:	4Ω~16Ω
Input Impedance:	10Hz~50KHz 100KΩ
Gain:	27dB
Rated Input Voltage:	1V
Input/Output Characteristics:	in-phase
Output Terminal:	• SPEAKER A, B, C, A+B • Headphone

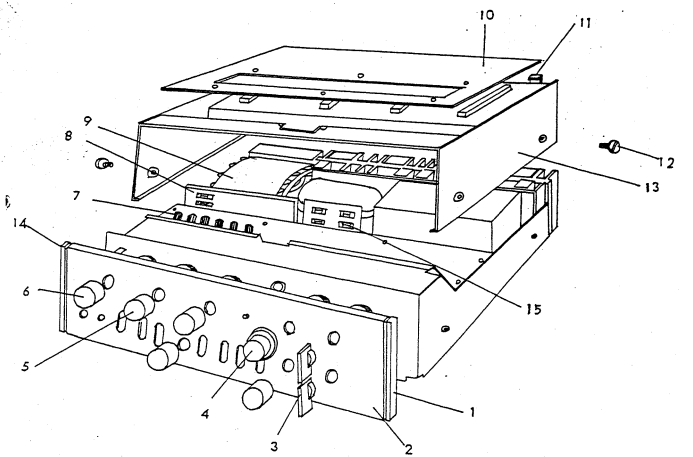
Pre-Amplifier:

Input Sensitivity and Input Impedance:	PHONO−1(1.03KHz) 2.0mV(50KΩ, 30KΩ)
	PHONO−2 MM 2.0mV(50KΩ)
	MC 83μV(80Ω)
	MIC 1.8mV(50KΩ)
	TUNER, AUX-1, AUX-2, PLAY 100mV(100KΩ)
Total Harmonic Distortion:	at 1V output 1KHz less than 0.05%
Inter Modulation Distortion:	at 1V output 1KHz SMPTE 70Hz:7KHz=4:1 less than 0.05%
Frequency Characteristics:	PHONO 1, PHONO 2. RIAA Characteristic ± 0.5dB (30Hz~15KHz)
Max. Allowable Input(Phono):	TUNER, AUX-1, AUX-2, PLAY +0 −1 dB at 1V output 10Hz~70KHz
	MM 1KHz(10KHz) 320mV(1500mV)RMS
	MC 1KHz(10KHz) 13mV(60mV) RMS
S/N (IHF A Network Input Shunt):	PHONO-1 better than 75dB
	PHONO-2 MM better than 75dB
	MC better than 55dB
	TUNER, AUX-1, AUX-2, PLAY better than 90dB
Output Voltage and Input Impedance:	PREOUT-1, PREOUT-2 (100KΩ at load) 1V(Rated Output) 4V(Max. Output)
	Output Impedance 2.2KΩ
	PRE-OUT (Open terminal Voltage) 100mV(Rated Output)
	Output Impedance(PHONO) 10KΩ
Tone Control 2dB/Step Switch Type:	TREBLE ±10dB @ 10KHz, 30KHz
	BASS ±10dB @ 100Hz, 30Hz
TURN OVER FREQUENCY:	TREBLE DEFEAT, 2.5KHz, 8KHz
	BASS DEFEAT, 400Hz, 125Hz
Filter:	HIGH FILTER(−3dB) 7KHz 12dB/oct
	LOW FILTER(−3dB) 70Hz 12dB/oct
	−20dB
Muting:	VR, −30dB 6dB(100Hz)
Loudness:	MC−Amp anti-phase
Input/Output Polarity:	EQ−Amp(MIC) in-phase
	TONE−Amp anti-phase
Transient Killer Operation Time:	when SW is turned on. 3sec.
	when SW is turned off. 0.5sec.
Power:	AC100,110,120,220,240V 50/60Hz
Power Consumption:	Electrical Goods Control Standards 80W(MAX. 210W)
	SWITCHED 3
	UNSWITCHED 1
AC Output:	
Dimensions:	437(W)×355(D)×136(H)mm
Weight:	12.5kg

CHASSIS LAYOUT TOPVIEW



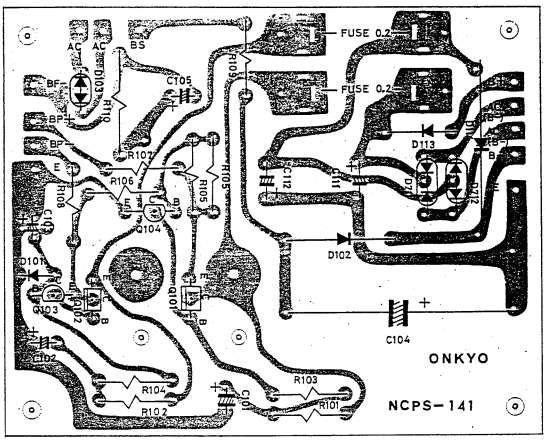
COMPONENT LOCATIONS



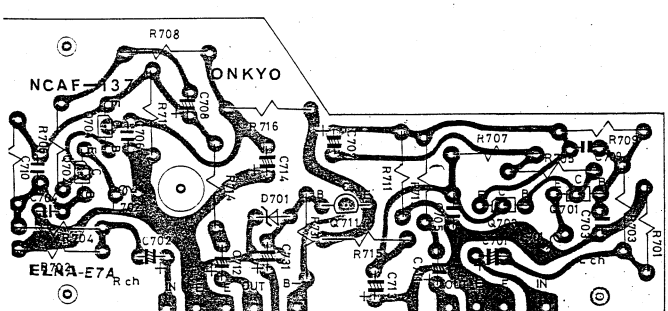
PARTS NO.	DESCRIPTION
1	Decoration Bar Right
2	Front Pannel
3	Knob-Selector
4	Knob-Volume Knob-Balance
5	Knob-Bass-A
6	Knob-Phono-A
7	Terminal Ass'y
8	NAPS-141a

PARTS NO.	DESCRIPTION
9	Power Transformer
10	Cover-Upper
11	Stopper-Upper Cover
12	Screw-Case
13	Case
14	Decoration Bar Left
15	Fuse

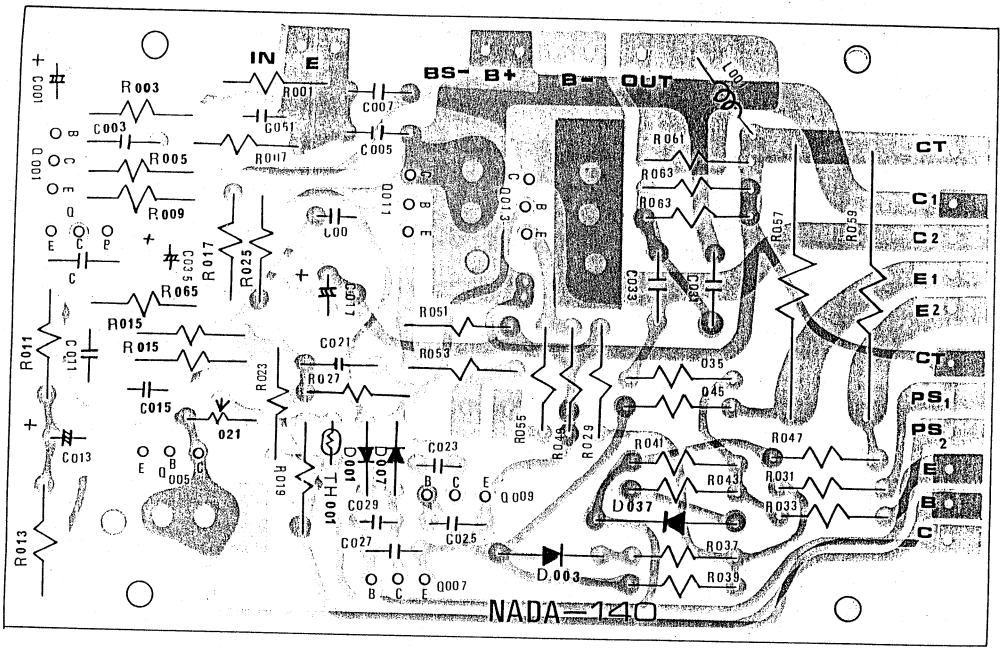
POWER SUPPLY ASS'Y
NAPS-141a

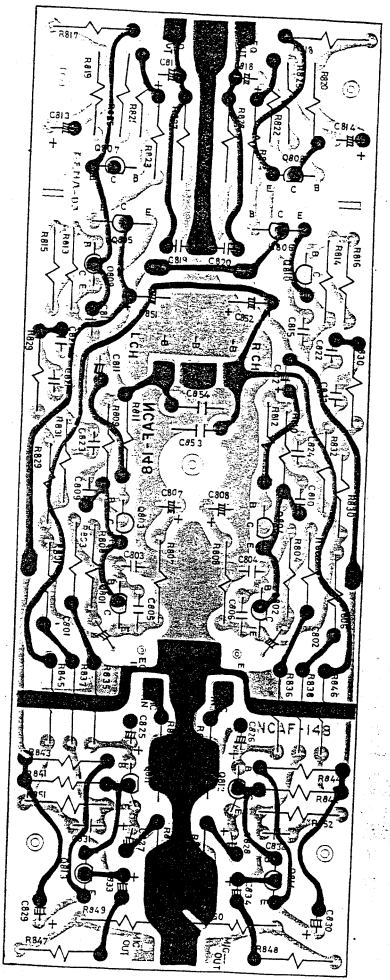


MC AMP ASS'Y
NAAF-137a

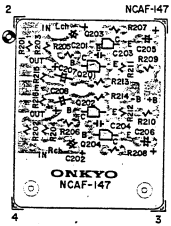


MAIN AMP ASSY NADA-140b(NADA-140c)





BUFFER AMP ASS'Y(NAAF-147)



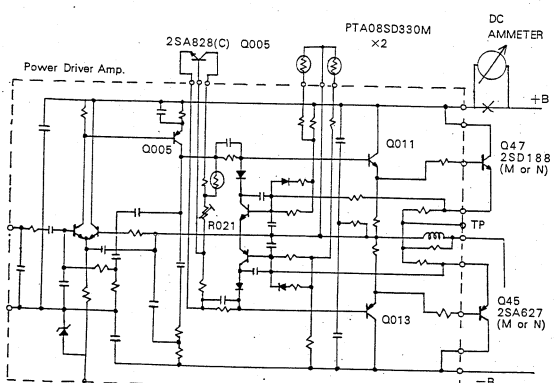
AUDIO

ADJUSTMENT OF IDLING CURRENT

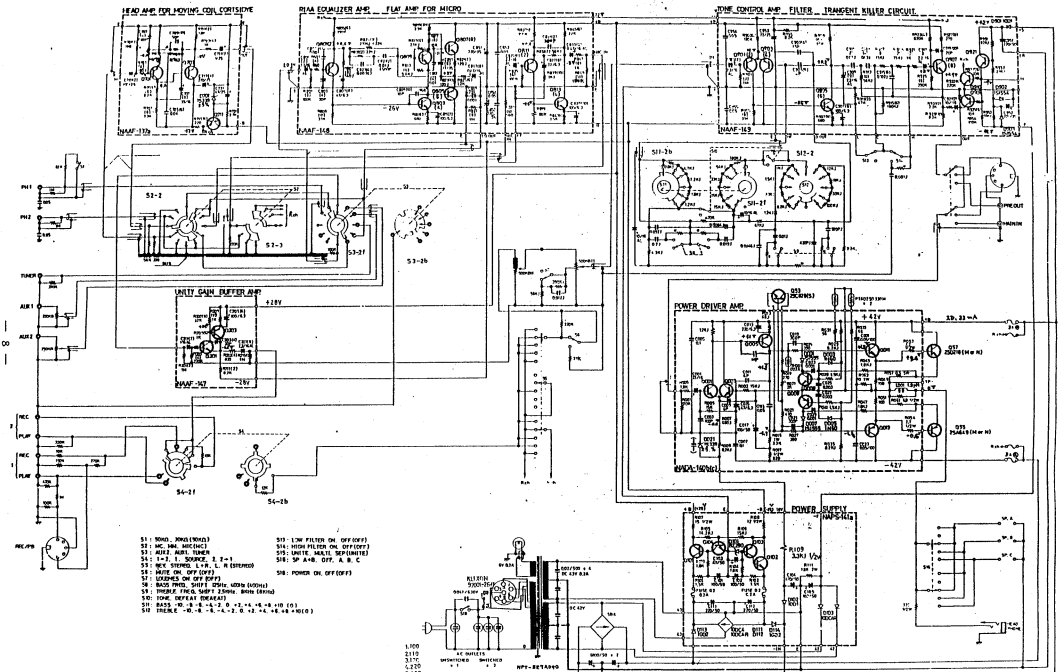
Instrument required: DC Ammeter 50mA or 100mA.

When replacing POWER or DRIVER transistor, check the idling current of POWER transistor.

To adjust to normal value(40+5mA, −0mA), follow as drawing.



1. Cut the connection between +B and collector of Q47, connect DC Ammeter.
2. Adjust the current to 40+5, −0mA by R021.
3. After adjust, connect original wiring.


HEAD AMP. FOR MOVING COIL CARTRIDGE
RIAA EQUALIZER AMP. FLAT AMP FOR MICRO
TONE CONTROL AMP. FILTER. TRANSIENT KILLER CIRCUIT
UNITY GAIN BUFFER AMP
POWER DRIVER AMP.
POWER SUPPLY
S1 : 50kΩ, 30kΩ(50kΩ)
S2 : MC 3dB, MIC(NC)
S3 : 1kHz, 50Hz, TONE
S4 : 4-GANG, 6 POSITION, 2 Σ-1
S5 : REV. STEREO, L+R, L, R (STEREO)
S6 : MUTE ON, OFF (OFF)
S7 : LOUDNESS ON OFF OFF)
S8 : BASS FREQ. SHIFT 125Hz, 400Hz (400Hz)
S9 : TREBLE FREQ. SHIFT 25kHz, 8kHz (8kHz)
S10 : TONE DEFEAT (DEFEAT)
S11 : BASS +8 -8 +6 -6 +4 -4 +2 -2 0 +2 -2 +4 +6 +8 +10 (0)
S12 : TREBLE +8 -8 +6 -6 +4 -4 +2 -2 0 +2 -2 +4 +6 +8 +10 (0)
S13 : LOW FILTER ON OFF(OFF)
S14 : HIGH FILTER ON, OFF(OFF)
S15 : UNITE, MULTI SEP.(UNITE)
S16 : SP A+B, OFF, A, B, C
S18 : POWER ON, OFF(OFF)
KITATSU TOKO-TSUU
AC OUTLETS
UNSWITCHED
SWITCHED
NPT-RETARD
Q101,0703,0801 2SA705(F or B) Q201 2SA705(D-0205) Q111,0805 2SC545 (No. F) Q201,0803,0813,0905,0907,0909,0913 2SC828A (D-0909) Q808 2SC828(S) Q817 2SC857 (K or L)
Q811,0911,0913 2SA699 (F&R) Q919 2SC945A (Dw.B) Q831 2SC945A(D-0203) Q946 etc 2SA966 (B-0908)F Q944 2SA942 (GR) Q948 2SC925 (GR)

PARTS LIST

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
	ASSEMBLIES		
001	MC Amp. ass'y	NAAF-137a	1
002	Equalizer Amp. ass'y	NAAF-148	1
003	Tone Amp. ass'y	NAAF-149	1
004	Main Amp. ass'y(left)	NADA-140b	1
005	Main Amp. ass'y(right)	NADA-140c	1
006	Buffer Amp. ass'y	NAAF-147	1
007	Power Supply ass'y	NAPS-141a	1
	SEMICONDUCTORS, LAMP		
101	Transistor	2SA649(MorN)	2
102	Transistor	2SD218(MorN)	2
103	Transistor	2SC828(S) or 2SC733(GR)	2
104	Silicon Diode	5B3	1
105	Posistor	PTA08SD330M	4
106	Lamp	6.3V 0.15A	1
	TRANSFORMER		
201	Power Transformer	NPT-527ADGQ	1
	CAPACITORS		
301	Electrolytic	EC 50V 6800 μF	2
	RESISTORS		
401	Variable 5Y6401?	N24RDG500KBH500KBT130	1
402	Variable	N16RG250KB15	2
	SWITCHES, TERMINALS & ETC		
601	Switch-Rotary	NRSM-2211-25Y-1	1
602	Switch-Rotary	NRSM-2215-25Y-1	1
603	Switch-Rotary	NRSM-235-25Y-1	1
604	Switch-Rotary	NRSM-245a-25Y-1	1
605	Switch-Rotary	NRSM-383a-25Y-1	1
606	Switch-Rotary	NRSM-365a-20Y-1	1
607	Switch-Rotary	NRSM-225a-20Y-1	1
608	Switch-Lever	SLS-5 FREQ. SHIFT	3
609	Switch-Lever	SLS-3B MUT etc.	4
610	Switch-Slide S 15	S-J0275-2	1
611	Switch-Slide	KJ-0213	1
612	Switch-Push	ESB-1137S	1
613	Switch-Klixon	9700L-26-11	1
614	Jack-Headphone	3P64M	1
615	Socket-DIN	S1-8121	2
616	Socket-Pilot Lamp	VE-0202	1
617	Fuse-Holder	SN-2052	1
618	Fuse-Holder	FF-1S-H	2

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
619	Fuse	5A-T	5
620	Pin-Jack	NTM-10PB1-S2	2
621	Pin-Jack	S-Q3459	1
622	Speaker Terminal ass'y(red)		6
623	Speaker Terminal ass'y(black)		6
624	Socket-Power Transistor		4
	CHASSIS, SCREW & UNIT		
701	Right Frame		1
702	Left Frame		1
703	Holder-Pilot lamp		1
704	Cover-Pilot lamp		1
705	Cover-Rear		1
706	Heat Sink		2
707	Upper Pannel		1
708	Cover-Power Transistor		4
709	Screw-Case	4+10F-N(bronze)	4
710	Washer-Fiber		4
	CASE		
801	Case		1
802	Cover-Upper		1
803	Plate-Upper Cover		1
804	Holder-Upper Cover Plate		2
805	Front Pannel		1
806	Decoration bar-right		1
807	Decoration bar-left		1
808	Metal Fitting-Decoration bar		4
809	Facet-Power		1
810	Knob-Upper Cover		1
811	Stopper-Upper Cover		2
812	Cushion-Upper Cover		2
813	Rubber Guide-Upper cover		4
814	Cushion-Upper Cover(Front down)		4
815	Rubber Cushion		5
816	Knob-Selector-A		2
817	Knob-Bass-A		2
818	Knob-Phono-A		3
819	Knob-Volume-B		1
820	Knob-Balance-C		1
821	Knob-Level		2
822	Knob-Power		1
	NAAF-137a		
001-101	Transistor	2SA705(7or8)	4
001-102	Transistor	2SA678(7or8)	1

Pos. S18 Power switch 250157

PARTS LIST

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
103	Zener Diode	1S339	1
201	Coil-Choke	NCCH-1502	2
	NAAF-148		
-101	Transistor	2SA705(7or8) or 2SA493(0-1)	2
-102	Transistor	2SC632A(0-0201) 2SC1000(0-1)	4
-103	Transistor	2SC828(S) or 2SC733(GR)	2
-104	Transistor	2SA572WN(4or5) 2SA493(GRorBL)	2
-105	Transistor	2SA545(KorL) 2SA505(0-1)	2
-106	Transistor	2SC853(KorL) 2SA459(0-1)	2
	NAAF-149		
-101	Transistor	2SC632A(0-0201) 2SC1000(0-1)	4
-102	Transistor	2SC634A(7or8) 2SC733(GRorBL)	2
-103	Transistor	2SC634A(00203) 2SC734(0-1)	1
-104	Transistor	2SA493(GR)	4
-105	Silicon-Diode	10D1	1
-106	Silicon-Diode	1S954 or 1S1554	2
	NADA-140b(NADA-140c)		
-101	Transistor	2SA706(0-0208)P	1
-102	Transistor	2SA706(0-0208)P 2SA484(Y)	1
-103	Transistor	2SC1124(2)P 2SC1000(0-1)	2
-104	Transistor	2SC634A(7) or 2SC735(GR)	1
-105	Transistor	2SA678(7) or 2SA562(GR)	1
-106	Silicon Diode	1S953 or 1S1555	2
-107	Gerumanium Diode	1N60(N)FM	2
-108	Zener Diode	1S339	1
-109	Thermistor	D-22A	1
-201	Speaker Coil	S-1.3B	1
-401	Resistor-Semi variable	RVC1417 2K	1
	NAAF-147		
-101	Transistor	2SC632A(0-0201) 2SC1000(0-1)	2
-102	Transistor	2SA705(0-0205) 2SC493(0-2)	2

PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
	NAPS-141a		
007-101	Transistor	2SA678(7or8) 2SA561(OorY)	1
007-102	Transistor	2SC828A(Q-S) 2SC734(OorGR)	1
007-103	Transistor	2SD234(OorY)	2
007-104	Silicon Diode	10D2	3
007-105	Silicon Diode	10DC4R	2
007-106	Silicon Diode	10DC4	1
007-107	Zener Diode	BZ290	1
007-301	Capacitor-Electrolytic	EC 35 V 470 μF	1
007-302	Capacitor-Electrolytic	EC 35 V 220 μF	2
007-303	Capacitor-Electrolytic	EC 35 V 100 μF	1
007-701	Fuse	B-LC 0.2A	2
	Printed Circuit Board		
001-701	Printed circuit board	NCAF-137	1
002-701	Printed circuit board	NCAF-148	1
003-701	Printed circuit board	NCAF-149	1
004-701	Printed circuit board	NCDA-140	1
005-701	Printed circuit board	NCDA-140	1
006-701	Printed circuit board	NCAF-147	1
007-701	Printed circuit board	NCPS-141	1